AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) A wavelength filter comprising:

a solid material that is optically transparent and includes a pair of planar surfaces substantially parallel to each other; and

a supporting member that supports the solid material on a planar surface of the solid material, other than the pair of planar surfaces, the supporting member having rigidity higher than that of the solid material, wherein

the solid material is a birefringent material having an optical axis that makes a predetermined angle with respect to a normal to the pair of planar surfaces, ~~and~~

the wavelength filter selects light having a wavelength that is determined by optical length between the pair of planar surfaces, by resonating the light between the pair of planar surfaces, and

the predetermined angle is set so that

temperature coefficient of the optical length has a predetermined value with the birefringent material fixed on the supporting member, and

absolute value of a sum of (i) a product of (a) difference between linear expansion coefficients of the birefringent material and the supporting member and (b) refractive index of the birefringent material, (ii) thermooptical coefficient of the birefringent material, and (iii) change of refractive index due to a thermal strain between the supporting member and the birefringent material, is minimized.

Claims 2 and 3 (Cancelled).

4. (Currently Amended) The wavelength filter according to claim ~~3~~ 1, wherein the birefringent material is selected from the group consisting of an α-BBO crystal, an $LiIO_3$ crystal, a $CaCo_3$ crystal, and a β-BBO crystal.

Claim 5 (Cancelled).

6. (Currently Amended) A wavelength monitor that detects wavelength of laser light output from a semiconductor laser, the wavelength monitor comprising:

a wavelength filter that includes a solid material that is optically transparent and includes a pair of planar surfaces substantially parallel to each other, the wavelength filter selecting light having a wavelength that is determined by optical length between the pair of planar surfaces, by resonating the light between the pair of planar surfaces;

a wavelength detecting unit that detects emission wavelength of the laser light based on transmission light transmitted by the wavelength filter; and

a supporting member that supports the wavelength detecting unit and the wavelength filter on a planar surface of the wavelength filter, other than the pair of planar surfaces, the supporting member having a rigidity higher than that of the solid material, wherein

the solid material is a birefringent material having an optical axis that makes a predetermined angle with respect to a normal to the pair of planar surfaces,

the laser light output from the semiconductor laser is polarized in one direction, and

the predetermined angle is set so that

temperature coefficient of the optical length has a predetermined value with the birefringent material fixed on the supporting member, and

absolute value of a sum of (i) a product of (a) difference between linear expansion coefficients of the birefringent material and the supporting member and (b) refractive index of the birefringent material, (ii) thermooptical coefficient of

the birefringent material, and (iii) change of refractive index due to thermal strain between the supporting member and the birefringent material is minimized.

Claims 7-8 (Cancelled).

9. (Currently Amended) The wavelength monitor according to claim ~~8~~ 6, wherein the birefringent material forming the wavelength filter is selected from the group consisting of an α-BBO crystal, an $LiIO_3$ crystal, a $CaCo_3$ crystal, and a β-BBO crystal.

Claim 10 (Cancelled).

11. (Previously Presented) The wavelength monitor according to claim 6, further comprising a lens that adjusts spot size of the laser light output from the semiconductor laser, and that outputs the laser light with the spot size adjusted to the wavelength filter.

12. (Previously Presented) The wavelength monitor according to claim 6, wherein the wavelength detecting unit includes

a first photodetector that detects transmission light transmitted by the wavelength filter and that outputs a first detecting signal;

a second photodetector that directly detects the laser light output from the semiconductor laser and that outputs a second detecting signal; and

a wavelength detector that detects the emission wavelength of the laser light based on a ratio of the first detecting signal and the second detecting signal.

13. (New) The wavelength filter according to claim 4, wherein

the birefringent material is a $CaCo_3$ crystal,

light incident on the birefringent material has arbitrary polarization along an ordinary light axis, and

the optical axis of the $CaCo_3$ crystal forms an angle of approximately 67 degrees with the light axis.

14. (New) The wavelength filter according to claim 4, wherein

the birefringent material is a α-BBO crystal,

light incident on the birefringent material has arbitrary polarization along an ordinary light axis, and

the optical axis of the α-BBO crystal forms an angle of approximately 90 degrees with the light axis.

15. (New) The wavelength of the monitor according to claim 9, wherein

the birefringent material is a $CaCo_3$ crystal,

light incident on the birefringent material has arbitrary polarization along an ordinary light axis, and

the optical axis of the $CaCo_3$ crystal forms an angle of approximately 67 degrees with the light axis.

16. (New) The wavelength filter according to claim 9, wherein

the birefringent material is a α-BBO crystal,

light incident on the birefringent material has arbitrary polarization along an ordinary light axis, and

the optical axis of the α-BBO crystal forms an angle of approximately 90 degrees with the light axis.